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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/852,611

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Jerold Shan

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HEWLETT-PACKARD COMPANY

Intellectual Property Administration

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EXAMINER

REAGAN, JAMES A

ART UNIT

PAPER NUMBER

3621

DATE MAILED: 06/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/852,611

Applicant(s)

SHAN ET AL.

Examiner

James A. Reagan

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,6-10,13 and 15-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,6,7,9,10,13,15,16 and 18-41 is/are rejected.
- 7) ☐ Claim(s) 8 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. This action is in reply to the response filed on 13 March 2006.
2. Claims 1, 4, 6-10, 13, and 15-41 have been examined.

RESPONSE TO ARGUMENTS

3. Applicant's arguments received on 31 October 2005 have been fully considered but they are not persuasive. Referring to the previous Office action, Examiner has cited relevant portions of the references as a means to illustrate the systems as taught by the prior art. As a means of providing further clarification as to what is taught by the references used in the first Office action, Examiner has expanded the teachings for comprehensibility while maintaining the same grounds of rejection of the claims, except as noted above in the section labeled "Status of Claims." This information is intended to assist in illuminating the teachings of the references while providing evidence that establishes further support for the rejections of the claims.

Applicant asserts, "...no permissible combination of Cortes and Scroggie would have disclosed or suggested at least the features of (i) inputting customer profile information, customer web log information and promotion attributes into a model for simulating shopping behavior as a function of the customer profile information and the promotion attributes or (ii) using such a model to target delivery of future sales promotions." The Examiner respectfully disagrees. As shown in the rejection below, Cortes discloses the old and well-know method of capturing data to build models and make inferences based on historical events. As the Applicant voluntarily points out,

"...Cortes appears to be entirely concerned with classifying behavior based on the behavioral data itself. See, e.g., column 2 lines 61-64:

The present invention examines the volume of data to ascertain whether correlations exist between particular pieces of the data and particular types of transactions or transaction parties. Once a model or set of rules is established based on this analysis, the model or set of rules can be applied to the individual parties to examine their behavior in relationship to these rules and to classify these parties accordingly. This process can be referred to as making inferences about the parties or the underlying transactions."

Clearly, Cortes is disclosing gathering data to determine future behavior of an entity. Cortes is then combined with Scroggie who further discloses storage of customer profile information and web log data to include Internet usage (e-mail, purchase data history, etc.). See at least column 12, lines 52+. The combination of the two plainly disclose the claimed invention. It appears as if the Appellant is attacking the references in a piecewise fashion, instead of in combination, as intended by the Examiner and as shown above in the rejections under 35 USC § 103(a).

Applicant argues that there is no motivation to combine the applied references. In response to Applicant's argument that there is no suggestion to combine the references, the Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Furthermore, the Examiner recognizes that references cannot be arbitrarily altered or modified and that there must be some reason why one skilled in the art would be motivated to make the proposed modifications. Although the motivation or suggestion to make modifications must be articulated, it is respectfully submitted that there is no requirement that the motivation to make modifications must be expressly articulated within the references themselves. References are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures, *In re Bozek*, 163 USPQ 545 (CCPA 1969).

The Examiner is concerned that the Applicant apparently ignores the mandate of the numerous court decisions supporting the position given above. The issue of obviousness is not determined by what the references expressly state but by what they would reasonably suggest to one of ordinary skill in the art, as supported by decisions in *In re Delisle* 406 Fed 1326, 160 USPQ 806; *In re Kell, Terry and Davies* 208 USPQ 871; and *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ 2d 1596, 1598 (Fed. Cir. 1988) (citing *In re Lalu*, 747 F.2d 703, 705, 223 USPQ 1257, 1258 (Fed. Cir. 1988)). Further, it was determined in *In re Lamberti et al* 192 USPQ 278 (CCPA) that:

- (i) obvious does not require absolute predictability;
- (ii) non-preferred embodiments of prior art must also be considered; and
- (iii) the question is not express teaching of references but what they would suggest.

According to *In re Jacoby*, 135 USPQ 317 (CCPA 1962), the skilled artisan is presumed to know something more about the art than only what is disclosed in the applied references. Within *In re Bode*, 193 USPQ 12 (CCPA 1977), every reference relies to some extent on knowledge of persons skilled in the art to complement that which is disclosed therein. In *In re Conrad* 169 USPQ 170 (CCPA), obviousness is not based on express suggestion, but what references taken collectively would suggest.

In the instant case, the Examiner respectfully points out that Cortes discloses tried and true technique for predicting behavior. Scroggies then applies these techniques to online shopping, electronic databases, and electronic targeting of incentives to purchase goods and services. As such, it is NOT seen that the Examiner's combination of references is unsupported by the applied prior art of record. Rather, it is respectfully submitted that explanation based on the logic and scientific reasoning of one ordinarily skilled in the art at the time of the invention that support a holding of obviousness has been adequately provided by the motivations and reasons indicated by the Examiner, *Ex pane Levengood* 28 USPQ 2d 1300 (Bd. Pat. App. & Inter., 4/22/93).

In response to applicant's argument that Cortes is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, it appears as if the problem that the applicant is addressing is the gathering of pertinent data to predict customer behavior. As shown above and as clearly pointed out by the Applicant in the response received on 31 October 2005, "*The present invention examines the volume of data to ascertain whether correlations exist between particular pieces of the data and particular types of transactions or transaction parties. Once a model or set of rules is established based on this analysis, the model or set of rules can be applied to the individual parties to examine their behavior in relationship to these rules and to classify these parties accordingly. This process can be referred to as making inferences about the parties or the underlying transactions.*" This makes Cortes undoubtedly analogous.

With regard to claims 6, 7, 15, 16, 19-26, 27-34, and 36-41, the common knowledge declared to be well-known in the art is hereby taken to be admitted prior art because the Applicant either failed to traverse the Examiner's assertion of Official Notice or failed to traverse the Examiner's assertion of Official Notice adequately. To adequately traverse the examiner's assertion of Official Notice, the Applicant must specifically point out the supposed errors in the Examiner's action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art. A general allegation that the claims define a patentable invention without any reference to the Examiner's assertion of Official Notice would be inadequate. Support for the Applicant's assertion of should be included.

Allowable Subject Matter

4. Claims 8 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 4, 6, 7, 9, 10, 13, 15, 16, and 18-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cortes et al. (US 6,480,844 B1) in view of Scroggie et al. (US 5,970,469 A).

Examiner's Note: The Examiner has pointed out particular references contained in the prior art of record within the body of this action for the convenience of the Applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply. Applicant, in preparing the response, should consider fully the entire reference as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Claims 1, 10, and 35:

Cortes discloses the following limitations:

- *storing customer profile information corresponding to a plurality of on-line shoppers;*
- *storing customer web log information corresponding to the plurality of on-line shoppers;*
- *storing promotion attributes corresponding to a plurality of sales promotions that have been offered;*
- *inputting the customer profile information the web log information and the promotion attributes into a model for simulating shopping behavior as a function of the customer profile information and the promotion attributes;*
- *using the model to target delivery of future sales promotions.*

Cortes does not specifically disclose that the database files are specifically for online shoppers, that their habits are logged, or that the database contains product information and incentives. Scroggie, however, in at least the abstract as well as other relevant text discloses these limitations. It would have been obvious, therefore, to one of ordinary skill in the art at the time of the invention to apply the data mining principles and regression analysis techniques of Cortes with Scroggie's data concerning online shopping because the results would provide a model for predicting online shopping behavior, thereby maximizing profits.

Claims 4, 13, 36, and 37:

With regard to the limitations of:

- *the model comprises a logistic regression model;*
- *a step of using the mathematical model to target delivery of future sales promotions;*
- *a step of using the mathematical model to tailor sales promotions to individual shopper;*

See at least Cortes column 7, line 47.

Claims 6 and 15:

The combination of Cortes/Scroggie discloses the use of regression analysis techniques as applied to online consumer purchasing as shown in the rejections above. Cortes/Applicant do not specifically disclose that *the model is partially based on traditional logistical regression theory and partially on the maximum utility theory*. However, the Examiner takes **Official Notice** that these variations of logical regression analysis are old and well-known in the statistical analysis arts as well as the survey and marketing arts. It would have been obvious, therefore, to one of ordinary skill in the art at the time of the invention to combine the data mining principles and regression analysis techniques of Cortes with the established use of traditional logistical regression analysis and maximum expected utility models theory analysis because they provide insight to customer spending habits that may be extrapolated and used to maximize profits and product throughput.

Claims 7, and 16:

The combination of Cortes/Scroggie discloses the use of regression analysis techniques as applied to online consumer purchasing as shown in the rejections above. Cortes/Applicant do not specifically disclose:

- *customer profile information includes age, sex, religion, income, ethnicity, marital status, geographical location, number of children, interests, hobbies, spending habits, and zip code.*

However, the Examiner takes **Official Notice** that these attributes and parameters are old and well-known in the demographic utilization arts as well as the survey and marketing arts. It would have been obvious, therefore, to one of ordinary skill in the art at the time of the invention to combine the data mining principles and regression analysis techniques of Cortes with the established use of demographics and online activities of consumers because they provide insight to customer spending habits that may be extrapolated and used to maximize profits and product throughput.

Claims 9 and 18:

Cortes discloses the use of regression analysis techniques as applied to online consumer purchasing as shown in the rejections above. Cortes does not specifically disclose that *the promotion attributes include one of sales, upgrades, extended warranties, buy-one-get-one free, financing packages, free options, rebates, coupons, donations to charities, and free gifts.* However, Applicant, in the background of the specification discloses the features as already prevalent in the art. It would have been obvious, therefore, to one of ordinary skill in the art at the time of the invention to combine the data mining principles and regression analysis techniques of Cortes with the Applicant's incentives for online shoppers because the results would provide increased purchasing thereby maximizing profits.

Claims 19-26, 27-34, and 36-41:

The combination of Cortes/Scroggie discloses the use of regression analysis techniques as applied to online consumer purchasing as shown in the rejections above. Cortes/Applicant do not specifically disclose:

- *using the model to tailor sales promotions to individual shoppers;*

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- *sales promotions automatically are customized to a shopper based on customer profile information for said shopper;*
- *storing product information corresponding to a plurality of products offered for sale by the on-line vendor and inputting the product information into the model, and wherein the shopping behavior also is simulated as a function of the product information.*
- *using the model to compute a percentage likelihood that a shopper will be converted into becoming a*
- *purchaser;*
- *using the model to simulate a conversion of a shopper into a purchaser;*
- *using a simulator based on the model, varying promotion attributes input into the simulator, and then observing results generated by the simulator;*
- *continuously updating and improving the model based on new information;*
- *using an optimization engine to generate statistically driven sales promotion plans that have been optimized with respect to at least one objective function;*

However, the Examiner takes **Official Notice** that it is old and well-known in the commerce and transactional arts to use data models and simulations to forecast buyer behavior, as well as use an iterative process to continually update buyer data to increase profitability.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
8. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry of a general nature or relating to the status of this application or concerning this communication or earlier communications from the Examiner should be directed to **James A. Reagan** whose telephone number is **571.272.6710**. The Examiner can normally be reached on 8:00a - 5:00p M-F. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, **James Trammell** can be reached at **571.272.6712**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://portal.uspto.gov/external/portal/pair>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at **866.217.9197** (toll-free).

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

571-273-8300 [Official communications, After Final communications labeled "Box AF"]

571-273-8300 [Informal/Draft communications, labeled "PROPOSED" or "DRAFT"]

Hand delivered responses should be brought to the **United States Patent and Trademark Office Customer Service Window**:

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JAMES A. REAGAN

Primary Examiner

Art Unit 3621

02 June 2006

JAMES A. REAGAN
PRIMARY EXAMINER

